

ABSTRACT

A thread spacer for drill pipe with an attached flange is disclosed that is designed to easily break away from a thin thread spacer body. Also disclosed is a thread spacer with a separate flange, the thread spacer and flange each independently fixed to the drill pipe. The thread spacer assembly may include none, one or two flanges, for single or double shouldered threaded connections. In addition, a flange for a thread spacer is disclosed which has a thickness that takes into consideration not only the displacement in the pipes caused by the insertion of the thread spacer, but also compensated to provide the same stress on the shoulders as the joined pipes without a thread spacer. Thread spacer and flange retention apparatus are also disclosed, which retain the flange and/or thread spacer on the pipe connections when the pipes are separated.